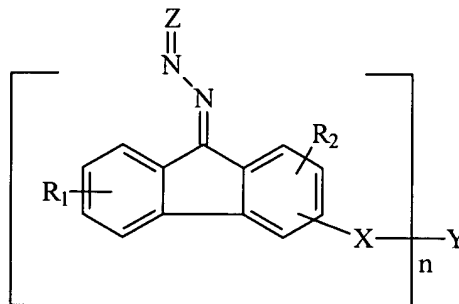


CLAIMS

What is claimed is:

1. An organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

(a) a charge transport material having the formula



where n is an integer between 2 and 6, inclusive;

R₁ and R₂ are, independently, H, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group;

X is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 0 and 20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR₃ group, a CHR₄ group, or a CR₅R₆ group where R₃, R₄, R₅, and R₆ are, independently, H, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group;

Y comprises a bond, C, N, O, S, a branched or linear $-(CH_2)_p-$ group where p is an integer between 0 and 10, an aromatic group, a cycloalkyl group, a heterocyclic group, or a NR₉ group where R₉ is hydrogen atom, an alkyl group, or aryl group, wherein Y has a structure selected to form n bonds with the corresponding X groups; and

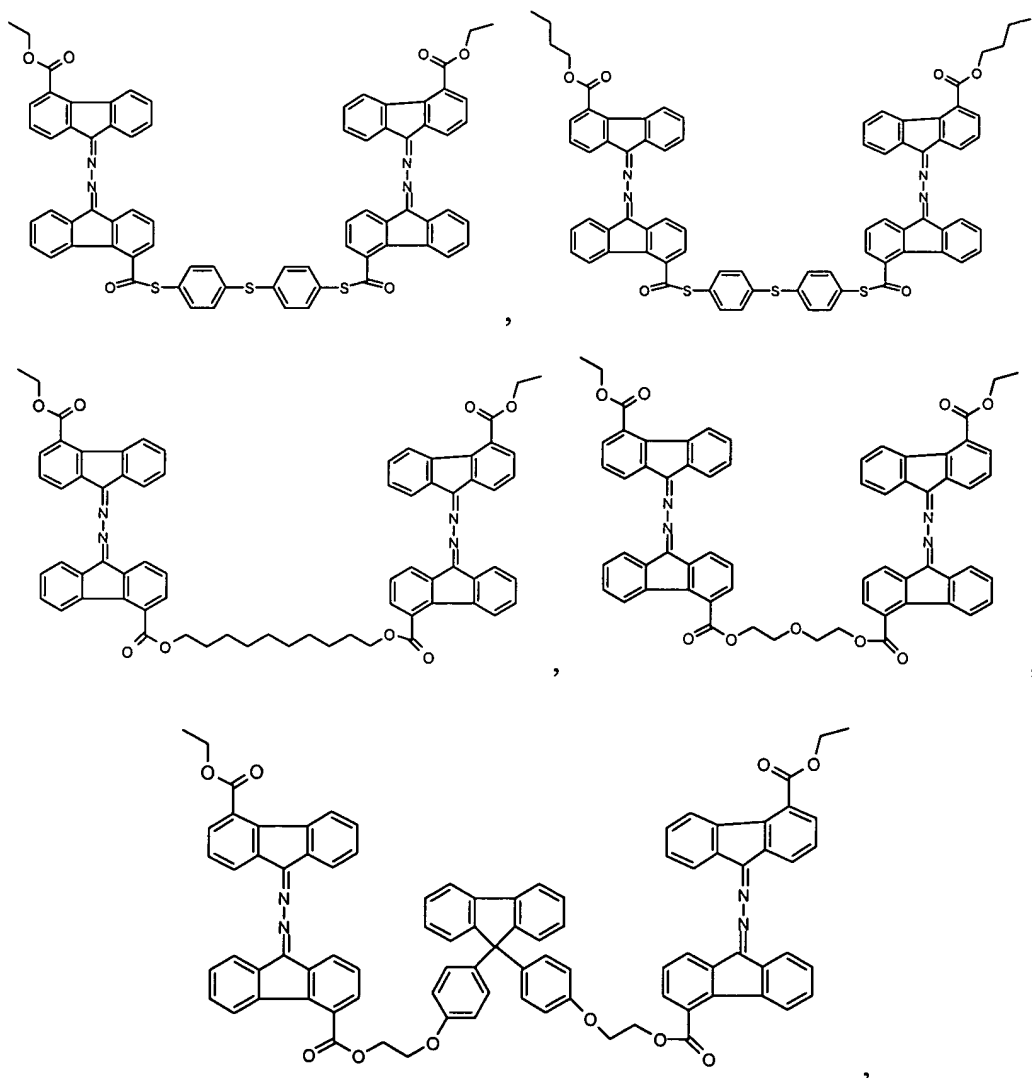
Z is a fluorenylidene group; and

(b) a charge generating compound.

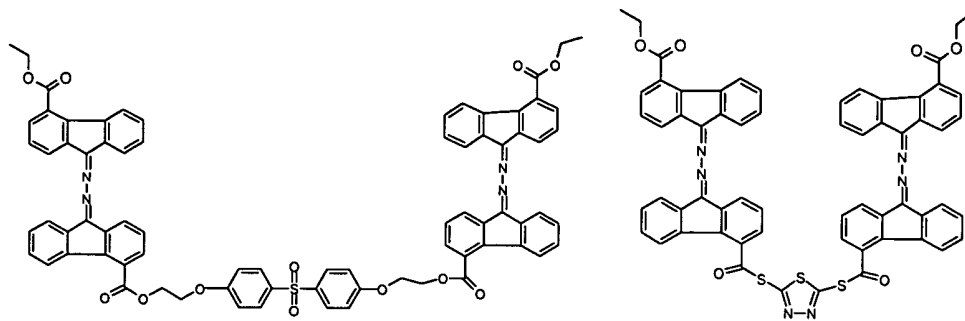
2. An organophotoreceptor according to claim 1 wherein Y is an aromatic group and X is $-S-C(=O)-$.

3. An organophotoreceptor according to claim 1 wherein Y is a bond, O, S, or CH₂ and X is -(CH₂)_m- group where m is an integer between 0 and 20 and where at least one of the CH₂ groups is replaced by O, S, C=O, O=S=O, an ester group, a heterocyclic group, or an aromatic group.

4. An organophotoreceptor according to claim 1 wherein the charge transport material has a formula selected from the group consisting of the following:



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5. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a second charge transport material.

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6. An organophotoreceptor according to claim 5 wherein the second charge transport material comprises a charge transport compound.

7. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a binder.

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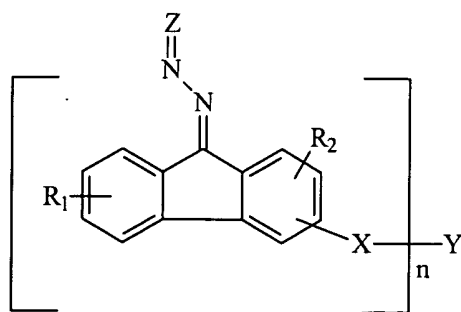
8. An electrophotographic imaging apparatus comprising:

(a) a light imaging component; and

(b) an organophotoreceptor oriented to receive light from the light imaging component, the organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising

15

(i) a charge transport material having the formula



20 where n is an integer between 2 and 6, inclusive;

R₁ and R₂ are, independently, H, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group;

5 X is a linking group having the formula -(CH₂)_m-, branched or linear, where m is an integer between 0 and 20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR₃ group, a CHR₄ group, or a CR₅R₆ group where R₃, R₄, R₅, and R₆ are, independently, H, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group;

10 Y comprises a bond, C, N, O, S, a branched or linear -(CH₂)_p- group where p is an integer between 0 and 10, an aromatic group, a cycloalkyl group, a heterocyclic group, or a NR₉ group where R₉ is hydrogen atom, an alkyl group, or aryl group, wherein Y has a structure selected to form n bonds with the corresponding X groups; and

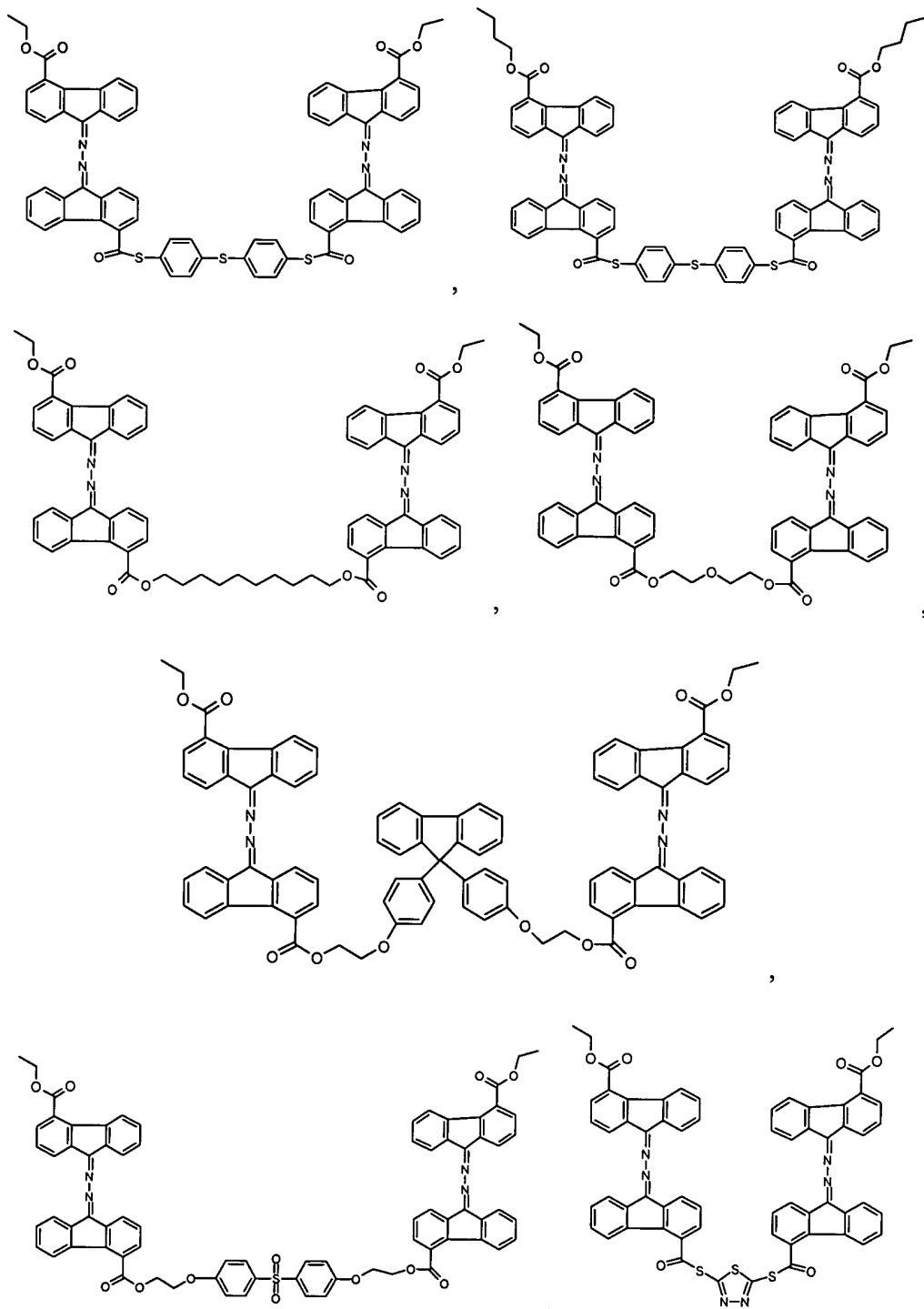
Z is a fluorenylidene group; and

15 (ii) a charge generating compound.

9. An electrophotographic imaging apparatus according to claim 8 wherein Y is an aromatic group and X is -S-C(=O)-.

20 10. An electrophotographic imaging apparatus according to claim 8 wherein Y is a bond, O, S, or CH₂ and X is -(CH₂)_m- group where m is an integer between 0 and 20 and where at least one of the CH₂ groups is replaced by O, S, C=O, O=S=O, an ester group, a heterocyclic group, or an aromatic group.

25 11. An electrophotographic imaging apparatus according to claim 8, wherein the charge transport material has a formula selected from the group consisting of the following:



12. An electrophotographic imaging apparatus according to claim 8 wherein the photoconductive element further comprises a second charge transport material.

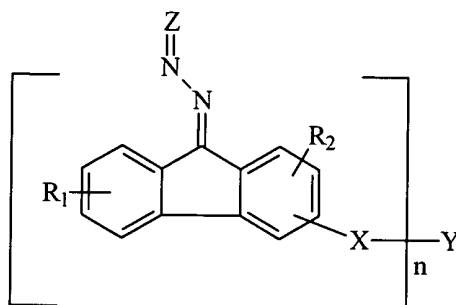
13. An electrophotographic imaging apparatus according to claim 12 wherein second charge transport material comprises a charge transport compound.

14. An electrophotographic imaging apparatus according to claim 8 further comprising a liquid toner dispenser.

15. An electrophotographic imaging process comprising;

(a) applying an electrical charge to a surface of an organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising

(i) a charge transport material having the formula



where n is an integer between 2 and 6, inclusive;

R₁ and R₂ are, independently, H, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group;

X is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 0 and 20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR₃ group, a CHR₄ group, or a CR₅R₆ group where R₃, R₄, R₅, and R₆ are, independently, H, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group;

Y comprises a bond, C, N, O, S, a branched or linear $-(CH_2)_p-$ group where p is an integer between 0 and 10, an aromatic group, a cycloalkyl group, a heterocyclic group, or a NR₉ group where R₉ is hydrogen atom, an alkyl group, or aryl group, wherein Y has a structure selected to form n bonds with the corresponding X groups; and

Z is a fluorenylidene group; and

(ii) a charge generating compound.

(b) imagewise exposing the surface of the organophotoreceptor to radiation to dissipate charge in selected areas and thereby form a pattern of charged and uncharged areas on the surface;

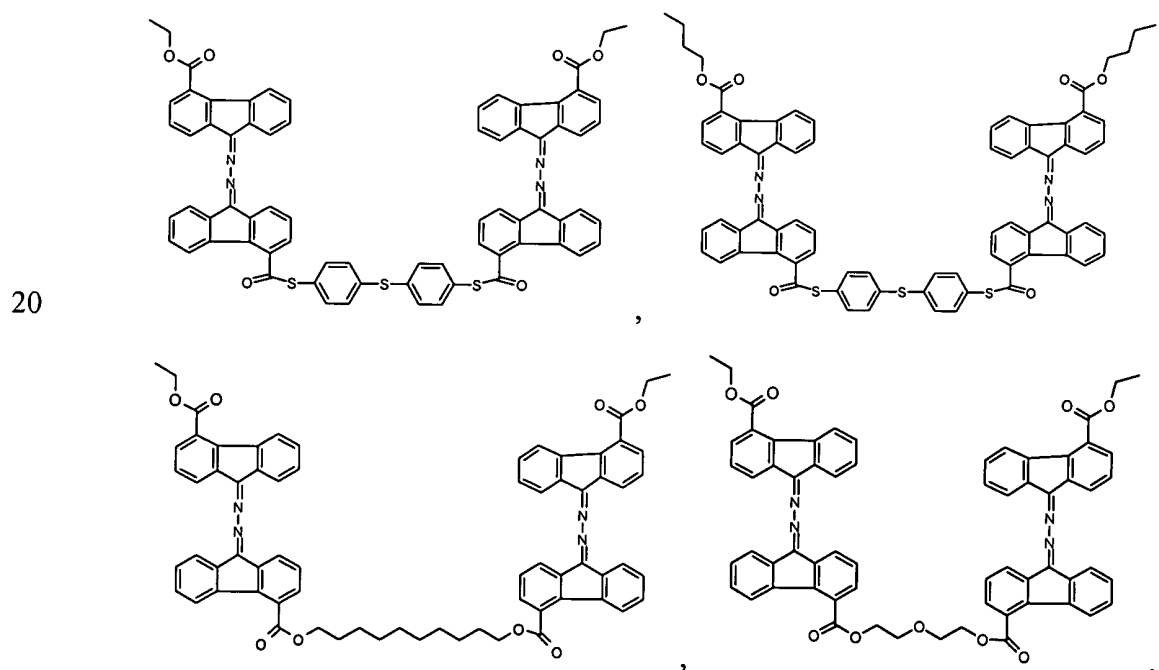
(c) contacting the surface with a toner to create a toned image; and

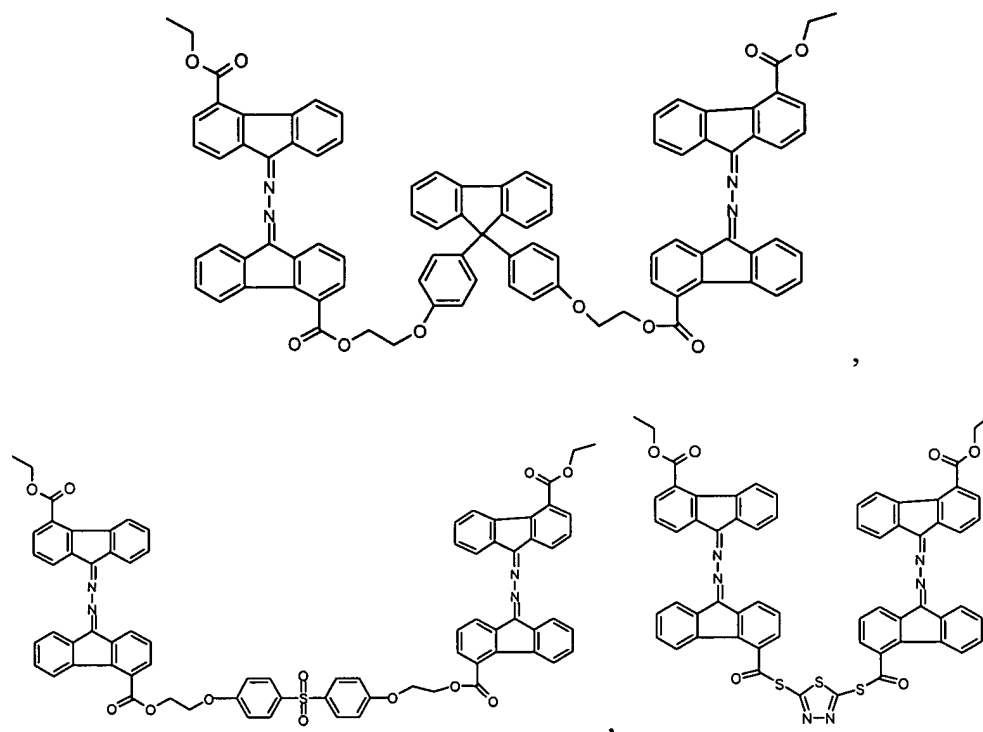
(d) transferring the toned image to substrate.

16. An electrophotographic imaging process according to claim 15 wherein Y is an aromatic group and X is $-S-C(=O)-$.

17. An electrophotographic imaging process according to claim 15 wherein Y is a bond, O, S, or CH_2 and X is $-(CH_2)_m-$ group where m is an integer between 0 and 20 and where at least one of the CH_2 groups is replaced by O, S, $C=O$, $O=S=O$, an ester group, a heterocyclic group, or an aromatic group.

18. An electrophotographic imaging process according to claim 15 wherein the charge transport material has a formula selected from the group consisting of the following:





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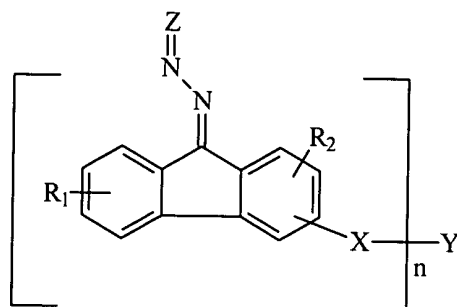
19. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a second charge transport material.

10 20. An electrophotographic imaging process according to claim 19 wherein the second charge transport material comprises a charge transport compound.

21. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a binder.

15 22. An electrophotographic imaging process according to claim 15 wherein the toner comprises a liquid toner comprising a dispersion of colorant particles in an organic liquid.

23. a charge transport material having the formula



where n is an integer between 2 and 6, inclusive;

R_1 and R_2 are, independently, H, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group;

X is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 0 and 20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR_3 group, a CHR_4 group, or a CR_5R_6 group where R_3 , R_4 , R_5 , and R_6 are, independently, H, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group;

Y comprises a bond, C, N, O, S, a branched or linear $-(CH_2)_p-$ group where p is an integer between 0 and 10, an aromatic group, a cycloalkyl group, a heterocyclic group, or a NR_9 group where R_9 is hydrogen atom, an alkyl group, or aryl group, wherein Y has a structure selected to form n bonds with the corresponding X groups; and

Z is a fluorenylidene group.

24. A charge transport material according to claim 23 wherein Y is an aromatic group and X is $-S-C(=O)-$.

25. A charge transport material according to claim 23 wherein Y is a bond, O, S, or CH_2 and X is $-(CH_2)_m-$ group where m is an integer between 0 and 20 and where at least one of the CH_2 groups is replaced by O, S, C=O, O=S=O, an ester group, a heterocyclic group, or an aromatic group.

26. A charge transport material according to claim 23 wherein the charge transport material has a formula selected from the group consisting of the following:

